Amended Claims:

1. [Cancelled] A satellite antenna system for mounting on a vehicle comprising; an antenna array to receive a satellite signal, said antenna array comprising a plurality of waveguides positioned parallel to one another for guiding received electromagnetic waves of said satellite signal, said waveguides including a ridged portion extending from a bottom surface, said ridge portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguides, and a plurality of radiating elements emitting said electromagnetic waves, said radiating elements being distributed along said radiating surface.

2. [Cancelled] The satellite antenna system of claim 1 wherein the satellite signal comprises a direct broadcast satellite signal wherein said radiating elements provide circular polarization.

3. [Cancelled] The satellite antenna system of claim 1 wherein each of said radiating elements is an X-shaped cross slot.

4. [Cancelled] The satellite antenna system of claim 3 wherein a crossing angle of said X-shaped cross slot is other than about 90 degrees.

5. [Cancelled] The satellite antenna system of claim 1 wherein said radiating elements are positioned about half a waveguide wavelength apart from one another.

6. [Cancelled] The satellite antenna system of claim 1 wherein said

radiating elements are positioned at an offset from a center of a waveguide axis of said waveguide toward one of said walls.

7. [Cancelled] The satellite antenna system of claim 1 wherein said radiating elements are equally spaced apart.

8. [Cancelled] The satellite antenna system of claim 1 wherein said ridge portion has a rectangular shape.

9. [Cancelled] The satellite antenna system of claim 1 wherein said ridge portion has a square shape.

Claim10. [Amended] ~~The satellite antenna system of claim 1~~ A satellite antenna system for mounting on a vehicle comprising; an antenna array to receive a satellite signal, said antenna array comprising a plurality of waveguides positioned parallel to one another for guiding received electromagnetic waves of said satellite signal, said waveguides including a ridged portion extending from a bottom surface, said ridged portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguides, a plurality of radiating elements emitting said electromagnetic waves, said radiating elements being distributed along said radiating surface, wherein said antenna array is associated with a circuit board and further comprising an antenna probe associated with each of said waveguides for coupling electromagnetic energy of said electromagnetic waves between said waveguide and said circuit board.

Claim11. [Cancelled] The satellite antenna system of claim 1 wherein said waveguide comprises a bend to rotate a feed end of said waveguide downward.

Claim12. [Cancelled] The satellite antenna system of claim 11 wherein said bend is about 90 degrees.

Claim 13. [Amended] A satellite antenna system for mounting on a

vehicle comprising; an antenna array to receive a satellite signal, said antenna array comprising a plurality of waveguides positioned parallel to one another for guiding received electromagnetic waves of said satellite signal, said waveguides including a ridged portion extending from a bottom surface, said ridged portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguides, a plurality of radiating elements emitting said electromagnetic waves, said radiating elements being distributed along said radiating surface, ~~The satellite antenna system of claim 11 further comprising~~ wherein said waveguide comprises a bend to rotate a feed end of said waveguide downward, and an antenna probe printed on a surface of said circuit board, said antenna probe being coupled to said ridge portion of said waveguide.

Claim14. [Amended] A satellite antenna system for mounting on a vehicle comprising; an antenna array to receive a satellite signal, said antenna array comprising a plurality of waveguides positioned parallel to one another for guiding received electromagnetic waves of said satellite signal, said waveguides including a ridged portion extending from a bottom surface, said ridged portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguides, a plurality of radiating elements emitting said electromagnetic waves, said radiating elements being distributed along said radiating surface, ~~The satellite antenna system of claim 11 further comprising~~ wherein said waveguide comprises a bend to rotate a feed end of said waveguide downward, and ~~The satellite antenna system of claim 11 further comprising~~ an antenna probe comprising a microstrip terminated by a termination portion, said termination portion being coupled to said ridge portion of said waveguide.

Claim 15. [Cancelled] The satellite antenna system of claim 11 further comprising a cavity terminating said bend.

Claim 16. [Cancelled] The satellite antenna system of claim 14 wherein said cavity has a depth of about a quarter wavelength.

Claim 17. [Amended] ~~The satellite antenna system of claims 1~~ A satellite antenna system for mounting on a vehicle comprising; an antenna array to receive a satellite signal, said antenna array comprising a plurality of waveguides positioned parallel to one another for guiding received electromagnetic waves of said satellite signal, said waveguides including a ridged portion extending from a bottom surface, said ridged portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguides, a plurality of radiating elements emitting said electromagnetic waves, said radiating elements being distributed along said radiating surface, ~~further comprising~~ a first antenna probe associated with a first end of said waveguide to couple a left hand polarization signal from said waveguide to a first beam forming network and a second antenna probe associated with a second end of said waveguide to couple a left hand polarization signal from said waveguide to a second beam forming network.

18. [Cancelled] The antenna system of claim 1 further comprising mounting means for mounting said antenna system on a vehicle.

19. [Cancelled] An antenna comprising: a waveguide, said waveguide including a ridged portion extending from a bottom surface, said ridge portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguide; and a plurality of radiating elements, said radiating elements being distributed along said radiating surface.

20. [Cancelled] The antenna of claim 19 wherein said waveguide is adapted to receive a direct broadcast satellite signal and said radiating elements provide circular polarization.

21. [Cancelled] The antenna of claim 19 wherein each of said radiating elements is an X-shaped cross slot.

22. [Cancelled] The antenna of claim 21 wherein a crossing angle of said

X-shaped cross slot is other than about 90 degrees.

23. [Cancelled] The antenna of claim 19 wherein said radiating elements are positioned about half a waveguide wavelength apart from one another.

24. [Cancelled] The antenna of claim 19 wherein said radiating elements are positioned at an offset from a center of a waveguide axis of said waveguide toward one of said walls.

25. [Cancelled] The antenna of claim 19 wherein said radiating elements are equally spaced apart.

26. [Cancelled] The antenna of claim 19 wherein said ridge portion has a rectangular shape.

Claim 27. [Cancelled] The antenna of claim 19 wherein said ridge portion has a square shape.

Claim 28. [Cancelled] The antenna of claim 19 wherein said antenna is formed of a metalized plastic material.

Claim 29. [Amended] ~~The antenna of claim 19~~ An antenna comprising: a waveguide, said waveguide including a ridged portion extending from a bottom surface, said ridged portion positioned longitudinally between a pair of walls coupled to said bottom surface; a radiating surface disposed adjacent to said waveguide; and a plurality of radiating elements, said radiating elements being distributed along said radiating surface wherein said antenna ~~array~~ is associated with a circuit board and further comprising an antenna probe associated with said waveguide for coupling electromagnetic energy between said waveguide and said circuit board.

Claim 30. [Amended] A transition from microstrip to waveguide comprising: a waveguide, said waveguide including a ridged portion

extending from a bottom surface, said ridge portion positioned longitudinally between a pair of walls coupled to said bottom surface, said waveguide including a bend; a radiating surface disposed adjacent to said waveguide; a plurality of radiating elements emitting said electromagnetic waves, said radiating elements being distributed along said radiating surface; and microstrip structure comprising a microstrip terminated on one end by a termination portion, said termination portion having a larger dimension than said microstrip, and said termination portion contacting said ridge portion below said bend.

Claim 31. [Original] The transition of claim 30 wherein said bend is about 90 degrees.

Claim 32. [Original] The transition of claim 30 further comprising a cavity terminating said bend.

Claim 33. [Original] The transition of claim 30 wherein said cavity has a depth of about a quarter wavelength.

Claim 34. [Cancelled] A method for manufacturing an antenna comprising: forming a waveguide, said waveguide including a ridged portion extending from a bottom surface, said ridge portion positioned longitudinally between a pair of walls coupled to said bottom surface: forming a radiating surface having a plurality of radiating elements, said radiating elements being distributed along said radiating surface; and coupling said radiating surface to said waveguide.

Claim 35. [Cancelled] The method of claim 34 wherein said radiating surface is coupled to said waveguide using a dip brazing process.

Claim 36. [Cancelled] The method of claim 34 wherein said radiating surface is coupled to said waveguide with a plurality of mounting elements.

Claim 37. [Cancelled] A method for manufacturing an antenna

comprising: forming a waveguide from a plastic material, said waveguide including a ridged portion extending from a bottom surface, said ridge portion positioned longitudinally between a pair of walls coupled to said bottom surface; forming a radiating surface from a plastic material; forming a plurality of radiating elements, said radiating elements being distributed along said radiating surface; and metalizing said waveguide and said radiating surface; and snap fitting said waveguide and said radiating surface together to form a structure.